

ORDINANCE, REGULATIONS & SYLLABUS
FOR
POST GRADUATE PROGRAM
IN
PHYSICAL EDUCATION



M.A. in Physical Education
Choice Based Credit System - Semester Program
July 2022

Two Year Full-Time Program
(Under Self-Finance Scheme)

Department of Physical Education
Faculty of Education
Deen Dayal Upadhyaya Gorakhpur University,
Gorakhpur
Uttar Pradesh, India-273009

**M.A. IN PHYSICAL EDUCATION
(C.B.C.S. Semester Program)
ORDINANCES AND SYLLABUS FOR
TWO YEAR FULL-TIME PROGRAM
(Under Self Finance Scheme)**

Program Specific Outcomes (PSOs):

- PSO1. To understand the basic Research framework and nature of Physical Education and Sports.
- PSO2. Student shall know how to organize, manage and present statistical data.
- PSO3. Students shall able to analyze the physical ability and performance of an individual in various sports.
- PSO4. To learn the basic and specific techniques, rules and concepts of various games/sports and their training.
- PSO5. Understand the physiological basis of physical fitness, physical training, health and wellness.
- PSO6. Understand the relationship between Yoga, Health and Wellness.
- PSO7. Understand the management of modern physical education programs and sports activities.
- PSO8. Correlate the psychological concepts of behavior with the sports and athlete specific situations.
- PSO9. Correlate the concept of ICT & Education in physical education and sports.
- PSO10. Understand the basic and specific mechanical concepts and their interpretation and importance in sports situations.
- PSO11. Enable the students for National Eligibility Test for Lectureship and pursue research work.

Ordinance:

1. General Introduction

In pursuance of the decision of the University to start Master Program in Physical Education from the academic session 2021-2022, the following is the general introduction of the course:

- I. The course shall be a full-time course.
- II. The course shall be divided into four semesters and there shall be examination in each semester as per CBCS rules.
- III. This program shall run on self-financing mode.

2. Name of the Course: M.A. in Physical Education (Total Credits:100)

3. Faculty : Faculty of Education

4. Intake : minimum 15(fifteen) and maximum 30 (Thirty)

5. Admission

- University offers full time M.A. in Physical Education program of 4 semesters.
- Admission to MA 1st year in Semester 1st will be made as per the rules prescribed by the University from time to time.
- The reservation policy as prescribed by the Central and the State Government or its directions regarding admission from time to time shall be adhered in the admission.

- If, at any time after admission, it is found that a candidate has not fulfilled all the requirements stipulated in the offer of admission or has committed some fraudulent act at any stage then the university reserves the right to revoke the admission of the candidate.

6. Eligibility for Admission: Minimum qualification for admission in this program will be as follows:

- I. A Bachelor's degree of Arts with at least 40% marks and Physical Education as an elective subject up to final year from a university / institution recognized by U.G.C.

OR

- II A Bachelor's degree in Physical Education with at least 40% marks from a university / institution recognized by U.G.C.

The University has the power to repeal and modify the eligibility criteria for admission in future.

7. Program Duration:

- The duration M.A. in Physical Education program for the candidates admitted in semester I will be of two academic years (4 semesters). The duration of the course shall be of 2 Years (4 Semesters).
- The duration of each semester will generally be 90 working days. There are two regular semesters in a year.

8. Admission Procedure:

The Candidates will be admitted to the program, strictly on the basis of merit of Entrance Test conducted by the University or as prescribed by the University and reservation policy as per the state government.

9. Program Fees:

The Tuition Fee for the program shall be Rs.8,000/- (per semester). Registration fee, Examination fee and other fee for this program will be as decided by the University. University reserves the rights to revise the fee structure and other rules of the program, if necessary. Besides this the other expenses like practical training kits, tour, project work etc. shall be borne by the students.

10. Degree to be Awarded:

After successful completion of the program the degree of Master of Arts in Physical Education will be awarded to the students.

11. Attendance Required:

As per the University Rules and Regulations.

12. Examination and Assessment:

As prescribed by the University (as per common ordinance for examination and assessment)

13. Examinations rules:

The system of examination, evaluation and declaration of results, passing marks and marks required for first, second and third division shall be in accordance with the Post Graduate examination of

the University. For the award of degree, the student has to pass in theory and practical examinations separately. Candidate will have the option of writing the answer of the questions either in Hindi or English medium.

PROGRAM STRUCTURE

M.A. in Physical Education (Choice Based Credit System) will be a 100 **credits** course. Overall total 25 courses are spread over 4 semesters. These courses are divided into five categories - Theory Core Courses (**4 credit each**), Practical Courses (**4 credit each**), Elective Courses (**4 credit each**), Minor Open Elective Course (**4 credit**) and Project Work/ Dissertation (**4 credit each**).

Number of Courses and Credits

S. No.	Types of course	Numbers of credit per course	Total Number of course Type	Total credit for the Particular type
1	Theory - Core	4	12	48
2	Practical	4	4	16
3	Elective	4	4	16
4	Minor (Open) Elective	4	1	04
5	Project Work/ Dissertation	4	4	16

Total Credit 100

SEMESTER WISE BREAK-UP OF COURSES

S. No.	Types of Course	Semester I	Semester II	Semester III	Semester IV	Total
1	Theory - Core	4(16)	3(12)	3(12)	2(8)	12(48)
2	Practical	1(4)	1(4)	1(4)	1(4)	4(16)
3	Elective	-----	1(4)	1(4)	2(8)	4(16)
4	Minor (Open) Elective	1(4)				1(04)
	Project / Dissertation Work	1(4)	1(4)	1(4)	1(4)	4(16)
Total		5+2(28)	4+2(24)	4+2(24)	4+2(24)	25(100)
		(52)		(48)		

- Figures in brackets are credits.
- **Theory Core Courses:** These courses will be compulsory for all students
- **Practical Courses:** These courses will be compulsory for all students
- **Minor (Open) Elective:** This course would be offered to the students of other faculty.
- **Elective Courses:** These courses are divided into two categories - Elective Courses (4 credits each) and Minor (Open) Elective Course (4 credit).
- **Project/Dissertation Work:** The process and evaluation of project/ Dissertation/ field work will be done according to the prescribed guidelines.

Semester Wise Structure of the Program

M.A. in Physical Education						
Semester I						
Course Code	Course Title	Type of Course	Int. Marks	Ext. Marks	Total Marks	Credits
PHED501	Research in Physical Education and Sports Sciences	Theory - Core	25	75	100	4
PHED502	Statistics in Physical Education and Sports Sciences	Theory - Core	25	75	100	4
PHED503	Test, Measurement and Evaluation in Physical Education	Theory - Core	25	75	100	4
PHED504	Kinesiology and Sports Biomechanics	Theory - Core	25	75	100	4
PHED505	Introductory Physical Education, Sports & Yoga	Minor (open) Elective	25	75	100	4
PHED506	Sports Practical with specialization in any one: Track & Field/ Gymnastics / Swimming / Combative Sport / Team Game/ Indigenous Sport / Racket Game.	Practical	25	75	100	4
PHED507	Research Project	Project	25	25	50	4
Total			175	475	650	28
Semester II						
PHED508	Sports and Exercise Physiology	Theory - Core	25	75	100	4
PHED509	Scientific Principles of Sports Training	Theory - Core	25	75	100	4
PHED510	Yogic Sciences	Theory - Core	25	75	100	4
Elective Course (Any one course to be selected)						
PHED511 A	Sport Journalism and Mass Communication	Elective	25	75	100	4
PHED511 B	Sports Management	Elective	25	75	100	4
PHED512	Sports Practical with specialization in any one: Track & Field/ Gymnastics / Swimming / Combative Sport / Team Game/ Indigenous Sport / Racket Game.	Practical	25	75	100	4
PHED513	Research Project	Project	25	25	50	4
Total			150	400	550	24

Semester Wise Structure of the Program

Semester III						
Course Code	Course Title	Type of Course	Int. Marks	Ext. Marks	Total Marks	Credits
PHED514	Health Education and Sports Nutrition	Theory - Core	25	75	100	4
PHED515	Sports Psychology	Theory - Core	25	75	100	4
PHED516	Sports Engineering	Theory - Core	25	75	100	4
Elective Course (Any one course to be selected)						
PHED517 A	Sports Technology	Elective	25	75	100	4
PHED517 B	Sports Medicine	Elective	25	75	100	4
PHED518	Sports Practical with specialization in any one: Track & Field/ Gymnastics / Swimming / Combative Sport / Team Game/Indigenous sport / Racket Game.	Practical	25	75	100	4
PHED519	Research Project / Dissertation	Project	25	25	50	4
Total			150	400	550	24
Semester IV						
PHED520	Sports Sociology	Theory - Core	25	75	100	4
PHED521	Physical Fitness and Wellness	Theory - Core	25	75	100	4
Elective Course (Any one course to be selected)						
PHED522 A	Gender, Disability and Inclusive Sports Education	Elective	25	75	100	4
PHED522 B	Curriculum Design in Physical Education	Elective	25	75	100	4
Elective Course (Any one course to be selected)						
PHED523 A	ICT and Educational Technology	Elective	25	75	100	4
PHED523 B	Athletic Care & Rehabilitation	Elective	25	75	100	4
PHED524	Sports Practical with specialization in any one: Track & Field/ Gymnastics / Swimming / Combative Sport / Team Game/IndigenousSport / Racket Game.	Practical	25	75	100	4
PHED525	Research Project / Dissertation	Project	25	25	50	4
Total			150	400	550	24
Grand Total			625	1675	2300	100

SEMESTER WISE SYLLABI OF THE PROGRAM

Syllabus of M.A. in Physical Education

Semester I THEORY COURSES

Course Code	Course Title	Credits
PHED 501	Research in Physical Education and SportsSciences	4

UNIT - I INTRODUCTION

- Meaning, Definition and Objectives of Research.
- Need, Nature and Scope of research in Physical Education.
- Classification of Research, Location of Research Problem.
- Criteria for selection of a problem.
- Limitation, Delimitation, Hypothesis.
- Qualities of a good researcher.

UNIT - II. METHODS OF RESEARCH

- Descriptive Methods of Research: Survey Study, Case study.
- Historical Research: Steps in Historical Research, Sources of Historical Research.
- Primary Data and Secondary Data, Internal Criticism and External Criticism.
- Experimental Research — Meaning, Nature and Importance.
- Meaning and type of Variables, Meaning and type of Experimental Design.

UNIT- III: SAMPLING

- Meaning and Definition of Sample and Population.
- Types of Sampling; Probability Methods, Systematic Sampling, Cluster sampling, Stratified Sampling.
- Sampling Techniques: Area Sampling, Multistage Sampling.

UNIT — IV: RESEARCH PROPOSAL AND RESEARCH REPORT

- Defining Research Project.
- Writing a Research Proposal and Research Report, Footnotes & Bibliography. E-Referencing.
- Ethical Issues in Research: Areas of Scientific Dishonesty, Ethical issues regarding copyright. Plagiarism.

REFERENCES:

- Best & Kahn (2003) Research in Education, 10th Ed. New Jersey; Prentice Hall, Inc.
- Clarke David. H& Clarke H, Harrison (1984) Research processes in Physical Education, New Jersey; Prentice Hall Inc.
- Craig Williams and Chris Wragg (2006} Data Analysis and Research for Sport and Exercise Science, London, Routledge Press
- Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities: Illinois: Human Kinetics;
- Kamlesh, M. L. (1999) Research Methodology in Physical Education and Sports, New Delhi

- Moses, A. K. (1995) Thesis Writing Format, Chennai; Poompugar, Pathippagam
- Rothstain, A (1985) Research Design and Statistics for Physical Education, Englewood Cliffs: Prentice Hall, Inc.
- Subramanian, R, Thirumalai Kumar S & Arumugam C (20 10) Research Methods in Health, Physical Education and Sports, New Delhi; Friends Publication
- Moorthy A. M. Research Processes in Physical Education (20 10); Friends Publication, New Delhi

Course Code	Course Title	Credits
PHED 502	Statistics in Physical Education and SportsSciences	4

UNIT I

- Meaning and Definition of Statistics.
- Need and importance of Statistics in Physical Education and Sports.
- Meaning of the terms: Population, Sample, Data, Variables.

UNIT II

- Meaning, uses and construction of frequency table
- Measures of Central Tendency — Mean, median and mode. Range Quartile Deviation, Mean Deviation, Standard Deviation, Probable Error. Normal Curve and its properties.

UNIT III

- Sample Distribution of Means, Standard Error of Mean.
- Testing of Hypothesis, Rejection of Null and Alternative Hypothesis.
- Level of Significance.
- Type I and Type II Errors.
 - Degrees of Freedom.

UNIT- IV

- Tests of significance: Independent “t” test, Dependent “t’ test, Chi - square test.
- Level of confidence and interpretation of data.
- Meaning of correlation, Co-efficient of correlation.
- Calculation of co-efficient of correlation by the product moment method and rank difference Method.
- Concept of ANOVA and ANCOVA.

REFERENCES:

- Best J. W (1971) Research in Education, New Jersey; Prentice Hall, Inc.
- Clark D.H. (1999) Research Problem in Physical Education 2nd edition, Englewood Cliffs, Prentice Hall, Inc.
- Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities; Illinois; Human Kinetics;
- Kamlesh, M. L. (1999) Research Methodology in Physical Education and Sports, New Delhi
- Rothstain A (1985) Research Design and Statistics for Physical Education, Englewood Cliffs: Prentice Hall, Inc.
- Sivaramakrishnan. S. (2006) Statistics for Physical Education, Delhi; Friends Publication
- Thirumalaisamy (1998)
- Statistics in Physical Education, Karaikudi, Senthil Kumar Publications

Course Code	Course Title	Credits
PHED 503	Test, Measurement and Evaluation in Physical Education & Sports	4

UNIT I: Introduction

- Meaning and Definition of Test, Measurement and Evaluation
- Need and Importance of Measurement and Evaluation in Physical Education.
- Criteria for Test Selection — Scientific Authenticity.
- Meaning, definition and establishing Validity, Reliability, Objectivity.
- Norms — Administrative Considerations.

UNIT II: Selection & Construction of Tests

- Factors Affecting Scientific Authenticity
- Procedure to establish Scientific Authenticity
- Construction of Test — Knowledge Test & Skill Tests.
 - Administration of Testing program, its procedure and follow up
 - UNIT III: Motor & Physical Fitness Tests

- Meaning and Definition of Motor Fitness and Physical Fitness.
- Tests for Motor Fitness:
 - Barrow Motor Ability Test.
 - Kraus Weber Minimum Muscular Fitness Test.
 - AAHPERD Health Related Fitness Battery (revised in 1984),
 - ACSM Health Related Physical Fitness Test.
 - Roger's Physical Fitness Index.
 - Harvard step test. 1 2 minutes Run / Walk Test, Beep test

UNIT IV: Anthropometric and Aerobic-Anaerobic Tests

- Physiological Testing:
 - Aerobic Capacity: The Bruce Treadmill Test Protocol, 1.5 Mile Run test.
 - Anaerobic Capacity: Margaria- Kalamen test, Wingate Anaerobic Test.
- Anthropometric Measurements:
 - Method of Measuring Height: Standing Height, Sitting Height.
 - Method of measuring Circumference: Arm, Waist, hip, thigh.
 - Method of Measuring Skin folds: Triceps, Sub scapular, Suprailiac.

REFERENCES:

- Bangsbo, J. (1994). Fitness training in football: A scientific approach. Bagsvaerd. Denmark
- Barron, H. M., & Mchee, R. (1997). A practical approach to measurement in physical education. Philadelphia: Lea and Febiger.
- Barron, H.M. & Mchee, R. (1997). A Practical approach to measurement in physical education, Philadelphia: Lea and Febiger.
- Kansal, D.K. (1996). Test and measurement in sports and physical education. New Delhi: D.V.S. Publications.
- Mathews, D.K., (1973). Measurement in physical education, Philadelphia: W.B. Saunders Company.
- Pheasant, S. (1996). Body space: anthropometry, ergonomics and design of work. Taylor & Francis, New York.
- Phillips, D. A., & Hornak, J. E. (1979). Measurement and evaluation in physical education. New York: John Wiley and Sons.
- Sodhi, H.S., & Sidhu, L.S. (1984). Physique and selection of sports- a kinanthropometric study. Patiala: Punjab Publishing House.

Course Code	Course Title	Credits
PHED 504	Kinesiology and Sports Biomechanics	4

UNIT I: Introduction to Kinesiology and Sports Biomechanics

- Meaning, nature, role and scope of Kinesiology and Sports Biomechanics.
- Relationship of Kinesiology and Physical Education.
- Fundamental concepts of – Axes and Planes, Centre of Gravity and Line of Gravity.
- Concept of work, power and, energy in physical activities and sports.

UNIT II: Concepts of Muscular Movement

- Classification of Joints and Muscles.
- Types of Muscle Contractions.
- Fundamental concepts of following terms- Angle of Pull, All or None Law and Reciprocal Innervation

UNIT III: Mechanical Concepts of Human Movement

- Linear and Angular Kinematics.
- Linear and Angular Kinetics.
- Fundamental Concept of Equilibrium, Force, Lever, Motion and Projectile in sports.

UNIT IV: Air & Fluid Mechanics

- Application of Mechanical concepts in different sports situations.
- Understanding the concept of: Spin, Flotation, Fluid Resistance, Drag & lift.

REFERENCES:

- McGinnis, P. (2013). Biomechanics of sport and exercise. Champaign, 1 L: Human Kinetics. ISBN 9780736079662
- Blazeovich, A. (2007). Sports biomechanics. London: A. & C. Black. ISBN 978071367b710
- Bartlett, R. (2007). Introduction to sports biomechanics. London: Routledge, Taylor & FrancisGroup. ISBN 9780415339933
- Hall, S.(2014) Basic biomechanics. Mcgraw Hill Higher Education. ISBN 9780073522760
- Knudson, D. (2007). Fundamentals of biomechanics. New York, NY: Springer. ISBN 978-0-387- 49311-4
- Deshpande S.H. (2002), Manav Kriya Vigyan — Kinesiology (Hindi Edit ion) Amravati: HanumanVyayam Prasarak Mandal.
- Hoffman S.J. Introduction to Kinesiology (Human Kinesiology Publication in 2005).
- Steven Roy,& Richard Irvin (1983). Sports Medicine, New Jersey: Prentice Hall.
- Thomas. (2001). Manual of structural Kinesiology, New York: Mc Graw Hill.
- Uppal A.K. Lawrence Mamta MP Kinesiology (Friends Publication India(2004)
- Uppal, A.K. (2004), Kinesiology in Physical Education and Exercise Science, Delhi Friends Publication
- Williams M(1982) Biomechanics of Human Motion, Philadelphia, Saunders Co.

MINOR OPEN ELECTIVE COURSE

Course Code	Course Title	Credits
PHED 505	Introductory Physical Education, Sports & Yoga	4

UNIT I: Introduction to Physical Education, Sports and Yoga

- Meaning, Definition and Scope of Physical Education & Sports.
- Aims and Objective of Physical Education & Sports.
- Importance of Physical Education, sports and Yoga in present era.
- Misconceptions about Physical Education.
- Sports and Yoga for all and its role in the maintenance and promotion of fitness and Wellness.

UNIT II: Scientific Basis of Physical Education and Sports

- Biological Basis of Physical Education and Sports.
- Psychological Basis Physical Education and Sports.
- Sociological Basis Physical Education and Sports.
- Mechanical Basis Physical Education and Sports.
- Stress Management & Behavior Modification through practice of Sports and Yoga
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UNIT III: Nutrition, Health and Wellness

- Meaning of Food & Nutrition, Balance diet, Obesity, Malnutrition.
- Concept of Health and Wellness. Personal Health and Hygiene, Management of Healthy Lifestyle
- Effects of Exercise and sports activities on Human body

UNIT IV: Praticum

- Practice of Yogasana (Sitting, Standing, Bending & Twisting postures) and Pranayama
- Types of Exercises, Concept of Warm up and Cool down
- Preparation of fitness and training schedules
- Modern concepts of Health and Fitness

TEXT & REFERENCE:

- David K. Miller & T. Earl Allen, Fitness. A life time commitment, Surjeet Publication Delhi 1989.
- Difcore Judy, the complete guide to the postnatal fitness, A fi C Black Publishers Ltd. 35 Bedford row, London 1998
- Dr. A.K. Uppal, Physical Fitness, Friends Publications (India), 1992.
- Warner W.K. Oeger & Sharon A. Hoeger. Fitness and Wellness, Morton Publishing Company. 1990.
- Elizabeth & Ken day, Sports fitness for women, B.T. Batsford Ltd, London, 1956.
- Emily R. Foster, Karyn Hartiger & Katherine A. Smith, Fitness Fun, Human Kinetics Publishers 2002.
- Lawrence, Debbie, Exercise to Music. A & C Black Publishers Ltd. 37, Sohe Square, London 1999
- Robert Malt. 90 day fitness plan, D.K. publishing, Inc. 95, Madison Avenue, New York
- Hoeger, W., & Hoeger. S. Lifetime physical fitness & wellness. ISBN- I3: 978- 1285733142 ISBN-10:1285733 142
- Fahey, T., Roth. W ., Insel P., & Insel, C. Fit & cell.ISBN-13: 978-0077770396 ISBN- 1 0: 0077770390
- Corbin, C. (2011). Concepts of physical fitness. New York: McGraw-Hill HigherEducation.ISBN-10: 9780073523828ISBN-13: 978-0073523828
- Hoeger, W., & Hoeger, S. Fitness & wellness.(20 13) Belmont, CA: Wadsworth, Cengage LearningISBN-13: 978-1 285733159ISBN-10: 1285733150
- Greenberg, J.Dintiman, G., & Myers Oakes, B. (2004). Physical fitness and wellness. Champaign. IL: Human kinetics. ISBN-13: 978-0736046961 ISBN-10. 0735046968

PRACTICAL COURSE

Course Code	Course Title	Credits
PHED 506	Sports Practical with specialization in any one: Track & Field / Gymnastics / Swimming / Combative Sport / Indigenous Sport / Team Game/ Racket Game.	4

(A) Track And Field (B) Gymnastics (C) Swimming (D) Combative Sport: Boxing/Judo/Taekwondo/Wrestling (E) Indigenous Sport:Kabaddi/ Kho-Kho (F) Team Game: Basketball/ Cricket/ Football/ Handball / Hockey/ Volleyball (G): Racket Game: Badminton/ Table Tennis/ Tennis

ESSENCE OF THE COURSE

It is designed to provide an opportunity to students to learn the basic techniques of the game/sport and are not only able to display them but also systematically teach them.

COURSE CONTENTS:

(General guidelines for development of required course contents in part ocular game/sport are given below)

UNIT — I: Introduction

- Historical development of the game/sport at national and international levels
- National Bodies controlling game/sport and their affiliated units.
- International Bodies controlling game/sport and their affiliated units.
- Major National and International competitions in Game/Sport
- Layout and marking of play filed/ground/courts and measurement of equipments used in Game/Sport.

UNIT - II: Techniques/Skills development

- Classification of techniques/skills.
- Technique/skill training: Preparatory, Basic. Supplementary exercises.
- Identification & Correction of faults.
- Training for mastery in technique/skill
- Recreational and lead-up activities.
- Warm-up and cool down for game/sports.

UNIT —III: Officiating:

- Mechanics of officiating.
- Qualities of good official.
- Duties of official (pre, during and post game)
- Rules & their interpretations.

UNIT — IV: Training (Means & Method)

- Training methods and means for the development of motor abilities (Strength, Speed, Endurance and Flexibility)
- Basic Concept or preparation of training schedules.
- Tactical training in game/sport.
- Psychological preparation required during competition in game/sport.
- Preparation of short term and long term training plans in game/sport.
- Periodization in training of players in game/sport.
- General/specific fitness tests and performance/skill test in game/sport.

SUGGESTED READINGS

Latest Official Rule Books of International Federations of particular game/sport and coaching manuals will be utilized.

CORE COURSE

Course Code	Course Title	Credits
PHED 507	Research Project	4

Objectives:

Research skills/ Practical skills are very important for project work. Through this course, in addition to the theoretical input, an opportunity is given to the students to acquire research skills by undertaking a research project as a part of the academic activity. It will help to:-

1. Develop the ability to conceptualize, formulate and conduct simple research projects.
2. Learn to assess the research studies and findings.
3. Develop the skills for library work and documentation for research.
4. Develop favourable attitudes for the integration of research and theory.
5. Develop logical thinking and critical analysis.

Guidelines for Research Project:

This paper will be based on field surveys/ work or activities done by the 1st semester students on the relevant issues concerned with Physical education and allied areas. Project will be completed and submitted for evaluation before the end of Semester II. Supervisor will be allotted for each student, who will guide and help the students in the project work. Supervisor will ensure that assigned 4 hours per week are taken to guide the students in his project work. At the end of 1st semester students will present their work progress and report to their supervisor. Bind copies of the report will be submitted in the department. A total of 8 Credits (4 credits in 1st semester and 4 credits in 2nd Semester) shall be allocated to the Research Project Course

Semester II
THEORY COURSES

Course Code	Course Title	Credits
PHED 508	Sports and Exercise Physiology	4

UNIT I: Introduction to Sports & Exercise Physiology and Muscular system

- Meaning, Definition & Historical Development of Sports & Exercise Physiology
- Sliding Filament theory of Muscular Contraction. Types of Muscle fiber, Muscle Tone, Muscular Contraction
- Effect of exercises and training on the muscular system

UNIT II: Cardio Respiratory System and Exercise

- Blood Supply to the Heart, Cardiac Cycle, Stroke Volume, Cardiac Output, Heart Rate, Factors Affecting Heart Rate, Cardiac Hypertrophy
- Effect of exercises and training on the Cardio-vascular system.
- Mechanics of Breathing. Minute Ventilation — Ventilation at Rest and During Exercise
- Diffusion of Gases, Exchange of Gases in the Lungs(external respiration)
- Second Wind, Oxygen Debt, Lung Volumes and Capacities

UNIT III: Metabolism and Energy Transfer

- Anaerobic Metabolism and Aerobic Metabolism
- Aerobic and Anaerobic Systems during Rest and Exercise.
- Effects of Short Duration, Long Duration and High Intensity Exercises

UNIT IV: Environment, Sports & Exercise

- Sports/Exercise in Hot and Cold Conditions
- Thermoregulatory Mechanism
- Physiological response, Health Risk associated with Exposure to heat and cold.
- Acclimatization: Sports & Exercise - Training in High Altitude.

PRACTICUM: (PHYSIOLOGICAL ASSESSMENT)

- Measurement of resting heart rate - before, after and during activity.
- Measurement of Blood Pressure by Sphygmomanometer
- Measurement of Vital Capacity and Peak Flow Rate,
- Assessment of Respiratory Rate.
- BMI method

REFERENCES:

- Amrit Kumar, R, Moses. (1995). Introduction to Exercise Physiology. Madras: Poompugar Pathipagam.
- Beotra Alka, (2000) Drug Education Handbook on Drug Abuse in Sports: Sports Authority of India Delhi.
- Clarke. D.H.(1975). Exercise Physiology. New Jersey: Prentice Hall Inc., Englewood Cliffs.
- David, L Costill. (2004). Physiology Of Sports and Exercise. Human Kinetics.
- Fox. E.L.. and Mathews, D.K. (1981). The Physiology Basis of Physical Education and

- Athletics. Philadelphia: Sanders College Publishing.
- Guyton, A.C. (1976). Textbook of Medical Physiology. Philadelphia: W.B. Sanders co.
 - Richard, W. Bowers. (1989). Sports Physiology. WMC: Brown Publishers.
 - Sandhya Tiwari. (1999). Exercise Physiology. Sports Publishers.
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 - Vincent, T. Murche. (2007). Elementary Physiology. Hyderabad: Sports Publication.
 - William, D. Me Aradle. (1996). Exercise Physiology. Energy, Nutrition and Human Performance. Philadelphia: Lippincott Williams and Wilkins Company.
 - Kenney, W., Wilmore, J., & Costill, D. (2015) Physiology of sport and exercise. 9781450477673
 - McArdle, W., Katch, F., & Katch, V. (2010). Exercise physiology. Baltimore, MD: Lippincott Williams & Willkins. ISBN 978- i 451191 554
 - Raven, P. (2013). Exercise physiology. Australia: Wadsworth Cengage Learning.

Course Code	Course Title	Credits
PHED 509	Scientific Principles of Sports Training	4

UNIT I: Introduction to Sports training

- Definition, Aim, Characteristics, Principles of Sports Training.
- Training Load: Types of Training Load, Factors of Training Load, Load and Adaptation
- Over Load: Definition. Causes of Over Load, Symptoms or Overload
- Phases and Means of Recovery

UNIT II: Physical Fitness Components & their Development

- Strength: Meaning. Definition & Methods to improve Strength: Weight Training. Isometric, Isotonic and Circuit Training
- Speed: Meaning, Definition & Methods to Develop Speed: Repetition Method, Downhill Run, Parachute Running, Wind Sprints.
- Endurance: Meaning, Definition & Methods to develop Endurance: Continuous Method, Interval Method, Repetition Method, Cross Country, Fartlek Training.

UNIT III: Physical Fitness Components & their Development

- Flexibility: Meaning. Definition & Methods to Improve the Flexibility- Stretch and Hold Method, Ballistic Method. Plyometric Training.
- Coordinative abilities: Types and Methods to improve Coordinative abilities.
- Meaning & Definition of Technique.
- Meaning & Definition of Strategy & Tactics.

UNIT IV: Training Plan & Introduction to Doping

- * Training Plan: Meaning & Importance, Micro-Cycle, Macro-Cycle, Meso-Cycle
- Short Term Plan and Long Terms Plans – Periodization.
- Preparatory Period, Competition Period and Transition Period.
- Definition of Doping, Drug abuse in sports and their effects on performance and body.

REFERENCES:

- Beotra Alka. (2000), Drug Education Handbook on Drug Abuse in Sports. **Delhi:** SportsAuthority of India.
- Bunn, J.N. (1998) Scientific Principles of Coaching, New Jersey Engle Wood Cliffs. Prentice Hall Inc.
- Can, E. Klafs & Daniel. D. Arnheim (1999) Modern Principles of Athletic Training St. Louis C. V. Mosby Company
- Daniel, D. Arnheim (1991) Principles of Athletic Training, St. Luis, Mosby Year Book
- Wuest, D., & Fisetete, J. (2014) Foundations of physical education. exercise science, and sport. McGraw-Hill Higher Education; ISUN- 10: 0073522775 ISBN-13. 978-0073522777
- Bompa, T., & Haff, G. (2009). Periodization. Champaign, IL.: Human Kinetics. ISBN-13: 9780736074834
- Haff, G., & Triplett, N. Essentials of strength training and conditioning. Champaign, IL.: Human Kinetics.
- Bompa, T., & Carrera, M. (2005). Periodization training for sports. Champaign. IL.: Human Kinetics.
- Zatsiorsky, V., & Kraemer, W. (2006). Science and practice of strength training. Champaign, IL: Human Kinetics.

Course Code	Course Title	Credits
PHED 510	Yogic Sciences	4

UNIT I: Introduction to Yoga

Meaning and Definition of Yoga, Astanga Yoga: Yama, Niyama, Asana, Pranayama, Prathyahara, Dharana, Dhyana, Samathi.

Concept of Yogic Practices: Principles - Breathing - Awareness - Relaxation. Pre-requirements conditions and contraindication of Yoga practice.

UNIT II:

Prelim and minor exercises: Techniques and benefits. Asanas:

Types, Techniques and Benefits.

Surya Namaskar: Methods and benefits. Pranayama:

Types, Methods and benefits. Chakras and Shudhi kriyan.

UNIT III:

Yoga and Sports: Supplementary, Compensatory & Regenerative Yogic Exercises

Role of Yoga in Psychological Preparation of athlete: Mental Wellbeing, Anxiety, Depression, Concentration, Self-Actualization.

Effects of Yoga practice on different Systems of body.

International Yoga Day, Common Yoga Protocol suggested by AYUSH

UNIT IV: PRACTICUM

1. Yogasana (In Sitting, Standing, Bending & Twisting poses)
2. Pranayama (5 types)
3. Mudras: Meaning, Techniques & Benefits
4. Shat Kriyas- Meaning, Techniques and Benefits
5. Bandas: Meaning, Techniques & Benefits
6. Meditation: Meaning, Techniques & Benefits
7. Relaxation (Shavasana & Makrasana)

TEXT & REFERENCES:

- Authors Guide (2015), International Day of Yoga, Common Yoga Protocol, New Delhi: Ministry of AYUSH, Government of India.
- George Feuerstein. (1975). Text Book of Yoga. London: Motilal Bansaridass Publishers (P) Ltd.,
- Gore. (1990). Anatomy and Physiology of Yogic Practices. Lonavala: Kanchan Prakashan.
- Helen Purperhart (2004) The Yoga Adventure for Children. Netherlands: A Hunter House Book.
- Iyengar, B. K. S. (2000). Light on Yoga. New Delhi: Harper Collins Publishers.
- Kuvalyananda Swami & S.L. Vinekar. (1963). Yogic Therapy — Basic Principles and Methods. New Delhi: Govt of India, Central Health Education and Bureau.
- Kenghe. C.T. (1976). Yoga as Depth- Psychology and para-Psychology (Vol-1): Historical Background. Varanasi: Bharata Manishai.
- Moorthy .A.M & Alagesan.S. (2004). Yoga Therapy, Coimbatore Teachers Publication House.
- Swami Satyananda Saraswati (1984). Kundalini and Tantra. Bihar: Yoga Publications.
- Swami Kuvalayananda. (1998). Asanas. Lonavla: Kaivalyadhama.
- Swami Satyananda Saraswati (1989). Asana Pranayama Mudra Bandha. Munger: Bihar School of Yoga.
- Swami Sivananda. (1971). The Science of Pranayama. Chennai: A Divine Life Society Publication.
- Tiwari. O.P. (1998). Asanas-Why and How. Lonavla: Kaivalyadhama.
- Thirumalai Kumar. Sand Indira .S (2011) Yoga in Your Life, Chennai: The Parkar Publication.
- Khalsa, M., & Bhajan,. (2008). Meditations for addictive behavior. Minneapolis, MN: I Was There Press. ISBN-10: 097991921 5. ISBN- 13: 978-09799 19213
- Lysebeth, A. (1979). Pranayama, the yoga of breathing. London: Unwin Paperbacks. ISBN- 10: 0041490509. ISBN -13: 978-0041490503
- Pandä, N. (2003). Meditation. New Delhi: D.K. Printworld. ISBN-10: 81246021 15 ISBN-13: 978- 81 24602119
- Ramacharaka,. (2009), The science of breath. Waiheke Island: Floating Press. ISBN- 10: 1508983704. ISBN- 13: 978- 1508983705
- Desikachar, T. (1999). The heart of yoga. Rochester, Vt,: Inner traditions International. ISBN- 13: 978- 0892817641. ISBN- 10: 08928 1 764X
- Iyengar, B. (1979). Light on yoga. New York: Schocken Books. ISBN- 10: 0805210318. ISBN- 13: 978- 08052 10316
- Kaminoff, L., & Matthews, A. (2012). Yoga anatomy. Champaign, IL: Human Kinetics. ISBN- 10: 1450400248. ISBN- 13: 978- 1450400244

ELCETIVE COURSES

Course Code	Course Title	Credits
PHED 511 A	Sport Journalism and Mass Communication	4

UNIT — I: Introduction to Sports Journalism & Mass Communication

- Meaning, Definition & Evolution of Sports Journalism. Ethics of Journalism.
- Sports Ethics and Sportsmanship, Reporting Sports Events, National and International Sports News Agencies, Definition, meaning, scope and importance of Sports journalism.

UNIT — II: Mass Communication and Media

- Introduction to mass communication - The concept of mass media - Mass media in India.
- Mass media institutions in India — Government media units - Press registrar of India, Presscouncil of India- Indian news agencies media educational institutions.
- The function of press- Press freedom and responsibility, Current trends in journalism.
- Sports Photography: Equipments, Radio and T.V.Commentary

UNIT - III: Report & Advertising

- News Reporting. Functions, responsibilities and qualities of reporter. - Functional differences of reporters — Special correspondents, foreign correspondents, columnists, free lancers.
- Structure of Advertising - Functions of advertising, Psychology of advertising, Types of advertising.
- Modern trends in Reporting and Advertising sports events.

UNIT — IV

1. Preparation of General news reporting and sports reporting.
2. Methods of editing a Sports report.
3. Evaluation of Reported News.
4. Interview with and elite Player and Coach.
5. Visit to News Paper office and TV Centre to know various departments and their working.
6. Preparation of Portfolio of newspaper cuttings of sports news (national & international).

REFERENCE:

- Ahiya B.N.(1988) Theory and Practice of Journalism: Set to Indian context Ed 3. Delhi : Surjeet Publications
- Ahiya B.N.Chobra S.S.A.(1990) Concise Course in Reporting. New Delhi: Surjeet Publication
- Bhatt S.C.(1993) Broadcast Journalism Basic Principles. New Delhi. Haranand Publication
- Dhananjay Joshi (2010) Value Education in Global Perspective. New Delhi: Lotus Press.
- Kannan K (2009) Soft Skills, Madurai: Madurai: Yadava College Publication
- Mohit Chakrabarti (2008): Value Education: Changing Perspective. New Delhi: Kanishka Publication.
- Billings, A., Butterworth, M., & Turman, P. (2012). Communication and sport. Thousand Oaks, Calif.: SAGE. ISBN-13: 978-141 2972932 ISBN- 10: 1412972930
- Billings, A. (2014) Routledge handbook of sport and new media. Routledge ISBN-13: 978- 0415532761 ISBN- 10: 0415532760
- Billings, A., Butterworth, M., & Turman, P. (2014) Communication and sport. ISBN- 13: 978- 1452279 138 ISBN- 10: 1452279136
- Sandvoss, C., Real, M., & Bernstein, A. (2012). Bodies of discourse. New York, NY: PeterLang. ISBN- 13: 978-143311173 0 ISBN-10: 1433 1 1 173 X
- Deninger, D.(2012). Sport on television New York: Routledge. ISBN-10' 0415896762 ISBN- 13: 978- 041 5896764

ELECTIVE COURSE

Course Code	Course Title	Credits
PHED 511 B	Sports Management	4

Unit I:

- Management: Concept and Principles of Management.
- Sports Management: Definition, Importance.
- Basic Function and Procedures of Sports Management.
- Personal Management: Objectives of Personal Management, Personal Policies

Unit II:

- Management of infrastructure, equipment, finance and personnel.
- Organization and Functions of Sports bodies.
- Management of Competitive Sports Programs.
- Factors affecting/influencing sports Program Management.
- Management of Community Based Physical Education and Sports program.

Unit III:

- Purchase and Care of Equipment.
- Guidelines for selection of equipment and Supplies.
- Guidelines for checking, storing, issuing, care and maintenance of supplies and equipment.
- Planning and Principles of Public Relations in Sports.

Unit—IV:

SWOT Analysis

- Organising sports meet:
 - o Institutional sport event
 - o Community sport event
 - o Fitness Events for children
- Officiating in the institutional tournaments
- Planning & Organising sport event
- Report preparation of sport event
- Audit Management of sport event

REFERENCES:

- Chakraborty & Samiran.(1998). Sports Management. New Delhi: Sports Publication.
- Charles, A, Bucler & March, L. Krotee. (1993). Management of Physical Education and Sports. St. Louis: Mosby Publishing Company.
- Chelladurai. P. (1999). Human Resources Management in Sports and Recreation. HumanKinetics.
- John, E, Nixon & Ann, E, Jewett. (1964). Physical Education Curriculum, New York: The Ronald Press Company.
- Williams, J.F. (2003). Principles or Physical Education. Meerut: College Book House.
- Yadvinder Singh. Sports Management. New Delhi: Lakshay Publication
- Bill, K. (2009). Sport management. Exeter[England]: Learning Matters.ISBN- 13 978-1844452637. ISBN- 10: 1844452638
- Smith, A., & Stewart, B. (1999). Sports management. St. Leonards, N.S.W.: AHen & Unwin.ISBN- 13: 978- 1 86448751 0. ISBN- 10: 18644875 1 8
- Hoyer, R. (2012). Sport management. Milton Park, Abingdon, Oxon: Routledge. ISBN-13: 978- 1856178198, ISBN-10: 1856178196

- Bowers, M. (20 15). Sport management. Champaign: Sagamore Publishing.ISBN- 10:1571 677267. ISBN-13: 978-1571 677266
- Krotee, M., & Bucher, C. (2007). Management of physical education and sport. Boston: McGraw-Hill.ISBN-10. 0072972920. ISBN- 13: 975.-007297292J

PRACTICAL COURSE

Course Code	Course Title	Credits
PHED 512	Sports Practical with specialization in any one: Track & Field / Gymnastics / Swimming / Combative Sport / Indigenous Sport / Team Game/ Racket Game.	4

Track And Field (B) Gymnastics (C) Swimming (D) Combative Sport: Boxing/Judo/Taekwondo/Wrestling (E) Indigenous Sport:Kabaddi/ Kho-Kho (F) Team Game: Basketball/ Cricket/ Football/ Handball / Hockey/ Volleyball (G): Racket Game: Badminton/ Table Tennis/ Tennis

ESSENCE OF THE COURSE

It is designed to provide an opportunity to students to learn the basic techniques of the game/sport and are not only able to display them but also systematically teach them.

COURSE CONTENTS:

(General guidelines for development of requirement courses contents in particular game/sport are given below)

Note: The course contents to be followed for the purpose of developing practical knowledge regarding marking, rules & regulation, officiating, technical training, tactical training, psychological preparation & preparation of training schedules)

UNIT — 1: Introduction

- Layout and marking of play field/ground/courts and measurement of equipments used in Game/Sport.

UNIT—II: Techniques /Skills development:

- Classification of techniques/skills.
- Technique/skill training: Preparatory. Basic, Supplementary exercises.
- Identification and Correction of faults.
- Training for mastery in technique/skill.
- Recreational and lead-up activities.
- Warm-up and cool down for game/sports..

UNIT —III: Officiating:

- Mechanics of officiating.
- Qualities of good official.
- Duties of official (pre, during and postgame)
- Rules & their interpretations.

UNIT — IV: Training (Means & Method)

- Training methods and means for the development of motor abilities (Strength, Speed, Endurance and Flexibility)
- Basic Concept of preparation of training schedules.
- Tactical training in game/sport. Psychological preparation required during competition in game/sport.
- Preparation of short term and long term training plans in game/sport.
- Periodization in training of players in game/sport.
- General/specific fitness tests and performance/skill test in game/sport.

Suggested Readings

Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

CORE COURSE

Course Code	Course Title	Credits
PHED 513	Research Project	4

Guidelines for Research Project:

This paper will be based on field surveys/ work or activities done by the 1st semester students on the relevant issues concerned with Physical education and allied areas. Project will be completed and submitted for evaluation before the end of Semester II. Supervisor will be allotted for each student, who will guide and help the students in the project work. Supervisor will ensure that assigned 4 hours per week are taken to guide the students in his project work. At the end of 1st semester students will present their work progress and report to their supervisor. Bind copies of the report will be submitted in the department. A total of 8 Credits (4 credits in 1st semester and 4 credits in 2nd Semester) shall be allocated to the Research Project Course.

Semester III

THEORY COURSES

Course Code	Course Title	Credits
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PHED 514	Health Education and Sports Nutrition	4
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UNIT I: Health Education

- Definition of Health, Health Education, Health Instruction and Health Supervision
- Aims, Objectives and Principles of Health Education
- * Level of Health Care — Primary, Secondary, Tertiary.

UNIT II: Hygiene, Sanitation, Communicable and Non-communicable disease

- Meaning and types of Hygiene and Sanitation
- Personal and Community Hygiene.
- Communicable (Tuberculosis, AIDS, Rabies, Cholera) and Non Communicable Diseases (Cardiovascular Diseases, Cancer, Diabetes)

UNIT III: Schools Health Services

- Meaning & Objective of School Health Services.
- Role of health education and health related schemes at school level.
- Health Services - Health record, health evaluation, first- aid and emergency care.

UNIT IV: Food, Sports Nutrition and Related Health Problem:

- Meaning and concept of Food, Nutrition and Balanced diet.
- Sources and functions of various nutrients.
- Sports specific diet requirements.
- Obesity, Malnutrition, Adulteration in food.

TEXT & REFERENCES:

- David K. Miller & T. Earl Allen, Fitness, A life time commitment, Surjeet Publication Delhi 1989.
- Dificore Judy, the complete guide to the postnatal fitness, A & C Black Publishers Ltd. 35 Bedford row, London 1998
- Dr. A.K. Uppal, Physical Fitness. Friends Publications (India), 1992.
- Warner W.K. Oeger & Sharon A. Hoeger. Fitness and Wellness, Morton Publishing Company, 1990.
- Elizabeth & Ken day, Sports fitness for women, B.T. Batsford Ltd, London, 1986.
- Emily R. Foster, Karyn Hartiger & Katherine A. Smith, Fitness Fun, Human Kinetics Publishers 2002.
- Lawrence, Debbie, Exercise to Music. A & C Black Publishers Ltd. 37, Sohe Square, London 1999
- Robert Malt. 90 day fitness plan. D.K. publishing. Inc. 95, Madison Avenue. New York
- Benardot, D. (2012). Advanced sports nutrition. Champaign, IL: Human Kinetics. ISBN 978145040 161 6
- Burke, L. (2007). Practical sports nutrition. Champaign, IL: Human Kinetics ISBN. 9780736046954

- Connolly, M. (2012). Skills-based health education. Sudbury, MA: Jones & Bartlett Learning. ISBN 978144963020 1

Course Code	Course Title	Credits
PHED 514	Sports Psychology	4

UNIT I: Introduction to Sports Psychology

- Meaning & definition of sports psychology.
- Historical development of sports psychology in India and Abroad.
- Interdisciplinary approach of Sports Psychology with other Sports Sciences.
- Importance of Sport and Exercise Psychology for Physical Education Teachers, Athletes and Coaches
- Role of sports psychologist

UNIT II: Personality & Motivation

- Personality: Meaning, definition and types.
- Theories of personality.
- Personality difference among sports person and its influence on performance.
- Motivation: Meaning, definition and types.
- Theories of Motivation.
- Techniques of Motivation for developing sports performance and exercise adherence.

UNIT III: Emotions & Athletic Performance

- Meaning, definition and types of Emotions
- Anxiety: Nature, Causes and Method of Measuring Anxiety.
- Stress: Nature and causes of Stress. Stress and Sports Performance.
- Aggression: Meaning and definition of Aggression. Aggression and Sports Performance.
- Relationship of Emotions with Sports Performance.

UNIT IV: Cognitive Process, Motor Development & Group Cohesion

- Meaning of Sensation, Perception, Memory, Information processing, Decision Making.
- Attention Processes and Concentration.
- Role of Cognitive process for Motor Skills acquisition and Motor control of sports person.
- Concept of Group and Group Cohesion in sports. Structure of Group & Team Dynamics.

REFERENCES:

- Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT) Catalogue of Tests, New Delhi: National Council of Educational Research and Training

Publication.

- Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT) Catalogue of Test, New Delhi: National Council of Educational Research and Training Publication.
 - Jain. (2002), Sports Sociology, Khel Sahitya Kendra Publishers.
 - Jay Coakley. (2001) Sports in Society — Issues and Controversies in International Education. Mc- Craw Seventh Ed.
 - John D Lauther (2000) Psychology of Coaching. New Jersey: Prentice Hall Inc.
 - John D. Lauther (1998) Sports Psychology. Englewood, Prentice Hall Inc.
 - Miroslaw Vauks & Bryant Cratty (1999), Psychology and the Superior Athlete. London: The Macmillan Co.
 - Richard. J. Crisp. (2000). Essential Social Psychology. Sage Publications.
 - Robert N. Singer (2001) Motor Learning and Human Performance. New York: The Macmillan Co.
 - Robert N. Singer. (1989) The Psychology Domain Movement Behaviour. Philadelphia: Lea and Fibiger.
 - Thelma Horn. (2002). Advances in Sports Psychology. Human Kinetic.
 - Whiting, K, Karman Hendry L.B & Jones M.G. (1999) Personality and Performance in Physical Education and Sports London: Hendry Kempton Publishers.
 - Weinberg, R., & Gould. D. (2011) Foundations of sport and exercise psychology. Leeds: Human Kinetics. ISBN-13: 978-073 6083232. ISBN-10: 0736083235
 - Cox, R. (2012). Sport psychology. New York: McGraw-Hill ISBN-13: 978-0078022470. ISBN-10: 0078022479
 - Burton, D., & Raedeke, T. (2008). Sport psychology for coaches. Champaign, IL: Human Kinetics. ISBN-13: 978-0736039864. ISBN-10: 0736039864
 - Anshel, M. (2012). Sport psychology. San Francisco, CA: Pearson Benjamin Cummings. ISBN-13: 978-0321732491. ISBN-10: 0321732499
 - Le Unes, A. (2008). Sport psychology. New York: Psychology Press. ISBN-13: 978-0805862669. ISBN-10: 0805862668

Course Code	Course Title	Credits
PHED 515	Sports Engineering	4

UNIT I: Introduction to sports engineering

- Meaning of Sports engineering.
- Designing and making of Protective sports Equipment.
- Role and importance of Surface Materials used in different sports.
- Role and importance of different types of foot wears in sports.

UNIT II: Sports Dynamics

- Concepts of internal force, external force, axial force, shear force, bending movements.
- Biomechanics of daily and common activities — Gait, Posture and Body levers. Ergonomics.
- Mechanical principles in movements such as lifting, walking, running, throwing, jumping, pulling, pushing etc.

UNIT III: Building and Maintenance

- Sports Infrastructure: Gymnasium, Pavilion, Swimming Pool, Indoor Stadium, Out-door Stadium, Play Park, Academic, Administrative & Research Block, Library,

- Sports Hostels etc.
- Echo free Sound System, Emergency provisions of lighting, fire and exits, Eco-friendly surrounding. Maintenance staff.

UNIT II: Engineering and Sports Performance

- Role of Engineering in development of human performance.
- Use and abuse of engineering in sports.
- Modern Engineering trends in sports.

Text & Reference:

- Subic, A., & Haake, S. (2000). The engineering of sport research, development and innovation. Malden, Mass.: Blackwell Science. ISBN- 10: 0632055634 ISBN-13: 978-0632055630
- Franz K. F. et al., Editor, Routledge Handbook of Sports Technology and Engineering (Routledge, 2013)
- Steve Hake, Editor, The Engineering of Sport (CRC Press, 1996)
- Franz K. F. et al., Editor The Impact of Technology on Sports 11 (CRC Press, 2007)
- Helge N., Sports Aerodynamics (Springer Science & Business Media, 2009)
- Youlin Hong, Editor Routledge Handbook of Ergonomics in Sport and Exercise (Routledge, 2013)
- Jenkins M., Editor Materials in Sports Equipment, Volume I (Elsevier, 2003)
- Colin White, Projectile Dynamics in Sport: Principles and Applications
- Eric C. et al., Editor Sports Facility Operations Management (Routledge, 2010).

ELECTIVE COURSE

Course Code	Course Title	Credits
PHED 517A	Sport Technology	4

UNIT I: Introduction to sports technology

- Meaning of Sports Technology.
- Scope and importance of technology in sports.
- Limitations and potential of technology in the field of physical education and sports.

UNIT II: Technology and Sports Performance

- Relationship of development in technology and human performance.
- Use and abuse of technological advancement in sports.
- Role of Technology in Historical development of sports and sportspersons.
- Modern technological trends in sports.

UNIT III: Use of Technology in Sports Equipment & Surface:

- Technology in sports footwear.
- Technology in Balls and hitting equipment.

- Technology in different sports surface.
- Technology in Protective equipment and gears.

UNIT IV: Measurement and Evaluation through Technological equipment:

- Human motion detection, recording and performance assessment.
- Technological equipment used in different sports.
- Softwares used in measurement, evaluation, research and prediction of Humanperformance.

REFERENCE:

- Franz K. F.etc. Editor, Routledge Handbook of Sports Technology and Engineering(Routledge, 20 13)
- Steve Hake, Editor, The Engineering of Sport (CRC Press, 1996)
- Franz K. F. et. at., Editor The Impact of Technology on Sports 11 (CRC Press, 2007)
- Helge N., Sports Aerodynamics (Springer Science & Business Media, 2009)
- Youlin Hong, Editor Routledge Handbook ofErgonomics in Sport and Exercise (Routledge, 2013)
- Jenkins M., Editor Materials in Sports Equipment, Volume I (Elsevier, 2003)
- Colin White, Projectile Dynamics in Sport: Principles and Applications
- Eric C. et at., Editor Sports FacilityOperations Management (Routledge, 2010).
- Brasch, N. (20 10). Sports and sporting equipment. South Yarra, Vic.: Macmillan Education Australia.
- Bruce, L., Hilvert, J., & Hilvert-Bruce. A. (2005). Sports technology. South Yarra, Vic.: Macmillan Library.
- Magdalinski, T. (2009). Sport, technology and the body. London: Routledge.
- Edmundson, C. Sports technology.
- Thompson, G. (2001). Sports technology. Southbank, Vic.: Nelson Thomson Learning.

ELECTIVE COURSE

Course Code	Course Title	Credits
PHED 517 B	Sport Medicine	4

UNIT I: Introduction to Sports Medicine

- Concept of Sports Medicine, Its aim and objectives, Need and Scope of Sports Medicine inPhysical Education and sports.
- Role of Sports Physician, Physical Educator/ Athletic Trainer, the coach and the player in sportsmedicine.

UNIT II: Sports Medical Problems

- Low back problems in sports and their management through therapeutic exercises.
- Advantages and disadvantage or exercises, before, during and after pregnancy.
- Common old age problems and evaluation of male and female athletes.
- Sports medical problems of athletes and rehabilitation.

UNIT III: Doping in Sports

- Dope History, definition of Drug abuse and Doping.
- Classification of Doping, IOC list of doping classes and methods.
- Signs and symptoms of Doping
- Use and abuses of drugs.
- Role of WADA and NADA

UNIT IV: Food supplements for Sportsperson

- Protein and creation utilization
- Planning and management of athletic diets for different category of sports
- Advisory Bodies
- Role of Water in diet for Athletes.

TEXT & REFERENCES:

- Rouzier, P. (2010). The sports medicine patient advisor. Amherst. MA: Sports Med Press. ISBN-10: 0984303 103. ISBN-13: 978-0984303 106
- Lyle, J., & Jenkins. M. (1995). The Sports Medicine Bible: Prevent, Detect. And, Treat Your Sports. New York: Harper Collins. ISBN-13: 976-006273 1 432
- Brukner, P., Khan, K., & Brukner, P. (2012). Brukner & Khan's clinical sports medicine. Sydney: McGraw-Hill ISBN-13: 978-007099813
- Madden, C., & Netter, F. (2010). Netter's sports medicine. Philadelphia, PA:Saunders/Elsevier. ISBN-10: 1416049223. ISBN-13: 978-1416049227
- O'Connor, F. (2013). ACSM's sports medicine. Philadelphia: Wolters Klower Health/LippincottWilliams & Wilkins. ISBN-10: 1431104251. ISBN-13: 978-1431104257
- Seidenberg, P., & Beutler, A. (2008). The sports medicine resource manual. Philadelphia, PA: Saunders/Elsevier. ISBN-10: 1416031979. ISBN-13: 978-1416031970
- Steven Roy, Irvin Richer "Sports Medicine" Prentice Hall, 1983.
- Vinger and Hoerner, "Sports Injuries" PSG Publishing Co. Inc. Massal. 1980.
- Armstrong and Tucker, Injuries and Sports London:Camples Press.
- More house and Rash. Sports Medicine for Trainer W.R. Saunders.
- « William, J.G.P., Sports Medicine, London: Edwar Arnold Publishers.

PRACTICAL COURSE

Course Code	Course Title	Credits
PHED 518	Sports Practical with specialization in any one: Track &Field / Gymnastics / Swimming / Combative Sport / Indigenous Sport/ Team Game / Racket Game.	4

(A) Track And Field (B) Gymnastics (C) Swimming (D) Combative Sport: Boxing/Judo/Taekwondo/ Wrestling (E) Indigenous Sport: Kabaddi/ Kho-Kho (F) Team Game: Basketball/ Cricket/ Football/ Handball / Hockey/ Volleyball (G): Racket Game: Badminton/ Table Tennis/ Tennis

ESSENCE OF THE COURSE

It is designed to provide an opportunity to the students to learn the basic techniques of the game/sport and are not only able to display them but also systematically teach them.

COURSE CONTENTS:

(General guidelines for development of required course contents in particular game/sport are given below)

Note: The course contents to be followed for the purpose of developing practical knowledge regarding marking, rules & regulation, officiating, technical training, tactical training, psychological preparation & preparation of training schedules)

UNIT - 1: Introduction

- Layout and marking of play field/ground/courts and measurement of equipments used in Game/Sport.

UNIT — II: Techniques/Skills development:

- Classification of techniques/skills.
- Technique/skill training: Preparatory, Basic, Supplementary exercises.
- Identification & Correction of faults.
- Training for mastery in technique/skill.
- Recreational and lead-up activities.
- Warm-up and cool down for game/sports.

UNITS —III: Officiating:

- Mechanics of officiating.
- Qualities of good official.
- Duties of official (pre, during and post game)
- Rules & their interpretations.

UNIT - IV: Training (Means & Method)

- Training methods and means for the development of motor abilities (Strength, Speed, Endurance and Flexibility)
- Basic Concept of preparation of training schedules.
- Tactical training in game/sport.
- Psychological preparation required during competition in game/sport.
- Preparation of short term and long term training plans in game/sport.
- Periodization in training of players in game/sport.
- General/specific fitness tests and performance/skill test in game/sport.

SUGGESTED READINGS

Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

CORE COURSE

Course Code	Course Title	Credits
PHED 519	Research Project / Dissertation	4

Research Project / Dissertation

Research skills are very important for analysis of physical education and sports activities. Through this course, in addition to the theoretical input, an opportunity is given to the students to acquire research skills by under taking a research project as a part of the academic activity.

Guidelines:

1. A Student shall select the research topic in the Semester III itself in consultation with the faculty member assigned as Supervisor or Guide for Research Project Course and report the same to the Head of the Department/College Principal in writing.
2. Topic of such research project shall be relevant to physical education and sports.
3. The topic of such research project shall be finalized only after the Department/College approves the same.
4. The tools of data collection should be finalized and data collection shall be completed by the mid of the Semester IV.
5. The student has to submit the Research Dissertation to the Head of the Department/College Principal on or before the exam of Semester IV.
6. Each student shall be compulsorily supervised in the Research Project by a faculty member. The Supervisor will guide the student. (methodology/ project process)
7. The allotment of the students to a faculty for supervision shall be done by the Departmental Committee.
8. The type of research project (qualitative, quantitative or combined) should be based on the consensual decision of both the student and the supervisor.
9. A total of 8 Credits (4 credits in III sem. and 4 credits in IV Sem.) shall be allocated to the Research Project Course.
10. The project/Dissertation report will be evaluated in Semester IV.

Semester IV

CORE COURSE

Course Code	Course Title	Credits
PHED 520	Sports Sociology	4

UNIT - 1:

Introduction – Sociology and Sociology of Sports

Sociological foundation of physical education and sports

Socialization through sports – Sports and integration

UNIT — II:

Sports and Violence

Sports and Tourism

Sports, Gender and Race

UNIT —III:

Sports and Economy – Commercialization of sports

Sports and the Media-Influence on each other

UNIT - IV:

Sports and Social Mobility

Sports and general career Success

Sports and educational opportunities

Sports in future

References :

- C.A. Bucher, Foundations of Physical Education and Sports
- Dharam Vir (Editor), Sports and Society – Readings in Sociology of Sports
- Jay, J. Coakley, Sports in Society – Issue and Controversies
- Wilbert Marcellus Leonard II, A Sociological Perspective of Sport
- Donald Chu, Dimensions of Sports Studies
- ED Saunders, G. White, Social Investigation in Physical Education and Sport

Course Code	Course Title	Credits
PHED 521	Physical Fitness and Wellness	4

UNIT I: Introduction to Fitness & Wellness

- Meaning and Definition of Fitness, Wellness & Nutrition
- Physical Fitness Concepts, Components, Techniques and Principles of physical fitness.
- Leisure time physical activity. Current trends in fitness and conditioning.

UNIT II: Application of Fitness & Wellness

- Nutrition & Wellness
- Body Composition & Weight Management
- Endurance: Cardio respiratory & Muscular
- Flexibility, Fitness & Wellness relationship

- Stress Management & Behavior Modification

UNIT III: Fitness & Wellness Assessment

- Measurement of Height & Weight
- Measurement of Body Composition
- Measurement of Basic Strength, Endurance and Flexibility
- Assessment of cardio respiratory fitness, Health Related Fitness.
- Stress Assessment & its Management Techniques.
- Preparation & implementation of Group Exercise Plans and Personal Training Plans.

UNIT IV: Establishment and Management of Fitness Centre

- Principles of starting fitness center -- location, policy, programs, record keeping, public relation.
- Fitness center membership and its types.
- Safety aspects and designing aspects of a fitness centre.
- Qualification and qualities for a fitness trainer.

REFERENCE:

- David K. Miller & T. Earl Allen, Fitness. A life time commitment, Surjeet Publication Delhi 1989.
- Dificore Judy, the complete guide to the postnatal fitness, A fi C Black Publishers Ltd. 35 Bedford row, London 1998
- Dr. A.K. Uppal, Physical Fitness, Friends Publications (India), 1992. Warner W.K. Oeger & Sharon A. Hoeger. Fitness and Wellness, Morton Publishing Company. 1990.
- Elizabeth & Ken day, Sports fitness for women, B.T. Batsford Ltd, London, 1956.
- Emily R. Foster, Karyn Hartiger & Katherine A. Smith, Fitness Fun, Human Kinetics Publishers 2002.
- Lawrence, Debbie, Exercise to Music. A & C Black Publishers Ltd. 37, Sohe Square, London 1999
- Robert Malt. 90 day fitness plan, D.K. publishing, Inc. 95, Madison Avenue, New York
- Hoeger, W., & Hoeger. S. Lifetime physical fitness & wellness. ISBN- 13: 978-1285733142 ISBN-10: 1285733 142

ELECTIVE COURSE

Course Code	Course Title	Credits
PHED 522A	Gender, Disability & Inclusive Sports Education	4

UNIT I: Understanding the Construction of Gender

- Defining Gender and features of gender inequality.
- Gender inequality in Education.
- Gender based violence as a development and rights challenge.
- Historical roots of gender construction in India —patriarchy and its socio- cultural origins.
- Impact of gender as a social Construct.

UNIT II: Gender and Schooling

- Gender issues in access to education & physical education.
- Quality of work and equal opportunity.
- Gender issues in physical education class and peer interactions.
- Gender issues and participation in sports.

UNIT III: Gender and Constitution of India

- Constitutional provision for education of women in India.
- Programs of women education in India.
- Gender and policies perspective.
- Class and Inequality.

UNIT IV: Disability & Inclusive Education

- Definition, concept and importance of inclusive education.
- Historical perspectives on education of children with diverse needs.
- Difference between special education, integrated education and inclusive education.
- Advantages of inclusive sports education for all children.
- Role of teachers, parents and society in supporting inclusion of children with diverse needs for participation in sports.

REFERENCES:

- Chanana, Karuna (ed) Socialisation. Education and Women, Orient Longman, New Delhi, 1988
- Mandell, Nancy (ed), feminist Issues: Race, Class and Sexuality, Prentice Hall, Ontario, 1995
- Nambissan, Geeta B, Gender and Education: The Social Context of schooling Girl Children in India, 1995.
- Erik Olin Wright, "From Paradigm Battles to Pragmatist Realism: towards an integrated class analysis", New Left Review (forthcoming)
- Daryl Glaser, "Class as a Normative Category: Egalitarian Reasons to Take It Seriously (With a South African Case Study)
- Daryl Glaser, 'Should An Egalitarian Support Black Economic Empowerment?'. Politikon. vol. 34, no. 2, 105-123, 2007.
- John Roemer paper: "Should Marxist's care about exploitation" in Analytical Marxism and Philosophy & public affairs 1985
- Michael Marmot, Richard Wilkinson, Social Determinants of Health: The Solid Facts
- Mel Kohn, Class and Conformity, excerpts
- Mei Kohn and Carmi Scholar, Work and Personality, excerpts
- Gomberg, How to make opportunity equal (Blackwell, 2007)
- Ainscow, M., Booth. T(2003): The Index for Inclusion: Developing Learning and Participation in Schools. Bristol: Center for studies in Inclusive Education.
- Ahuja. A, Jangira. N.K. (2002): Effective Teacher Training: Cooperative Learning Based Approach: National Publishing house 23 Daryaganj, New Delhi
- Jangira N.K. and Mani, M.N.G. (1990): Integrated Education for Visually Handicapped, Gurgaon, Old Subjimandi, Academic Press.
- Jha. M.(2002) Inclusive Education for All: Schools Without Walls, Heinemann Educational publishers, Multivista Global Ltd, Chennai, 600042, India.
- Sharma, P.L. (1990) Teachers handbook on IED-Helping children with special needs N. C. E. R. T. Publication.
- Sharma P.L(2003) Planning Inclusive Education in Small Schools, R .I.E. Mysore

ELECTIVE COURSE

Course Code	Course Title	Credits
PHED 522B	Curriculum Design in Physical Education	4

UNIT - I: Curriculum Meaning and Definition of Curriculum

- Principles of Curriculum Construction: Students centered, Activity centered and Community centered.
- Theories of curriculum development. Curriculum Framework.
- Relevance, flexibility, quality, contextually and plurality

UNIT — II: Factors & Resources

- Factors that affects curriculum.
- Sources of Curriculum materials: Books, Journals, Encyclopaedia, Magazines, Internet.
- Integration of Physical Education with other Sports Sciences.
- Curriculum research. Objectives of Curriculum research, Importance of Curriculumresearch.

UNIT — III: Curriculum Practices

- Preparation & selection of content of the curriculum at school level.
- Preparation of the curriculum at the middle and secondary school.
- Organising for instruction in the middle school.
- Organising the program of physical education at the urban and rural areas.

UNIT—IV: Safety Consideration & Evaluation

- Planning for safety in outdoor settings.
- Planning for safety in indoor settings.
- Planning for safety of spectators.
- Evaluation procedure in curriculum design.

REFERENCE:

1. Kelly, L., & Melograno, V. (2014) Developing the physical education curriculum. ISBN-13: 978-1478627043 ISBN-10: 1478627042
2. James, J. (2005). Curriculum design in physical. education and sports. **New Delhi:** Friends Publications (India). ISBN-10: 8172161433. **ISBN-13:** 978-8172161439
3. Shinde. B. (2011). Curriculum design in physical education. New Delhi. Sports Publication. ISBN-10: 8178796260. ISBN-13: 978-8178796260
4. Mohnsen, B. (2008). Teaching middle school physical education. Champaign. IL: Human Kinetics. ISBN-13: 978-0736068499 ISBN-10: 073 606849 X
5. Gupta, R., Sharma, A., & Sharma, S. (2004). Professional preparation and curriculum designs in physical education and sports. New Delhi: Friends Publications. ISBN 13: 9788172160821 (978-81-7216-082-1) ISBN: 8172160828 (81-7216-082-8)

ELECTIVE COURSE

Course Code	Course Title	Credits
PHED 523A	ICT & Education Technology in Physical Education	4

UNIT I: Basics of Education Technology

- Concept of Education Technology.
- Role of Technological Educational Practices.
- Technological Education Means (Hardware Technologies, Overhead Projector, Still and Movie Projector, Audio-Visual Recording Instruments, Television and Computers)

UNIT II: Communication Process and Teaching

- Communication: Concept and process of Communication, Principles of Communication, Barriers of Communication, Class room communication (Verbal and Non-Verbal)
- Teaching: Meaning, Principles and Procedure of teaching.

UNIT III: Information Technology

- Meaning, Nature and significance of information technology in teaching learning process.
- Multimedia Approach to Education: Role of Video conferencing, radio conferencing, television, Internet in teaching learning process, their advantage and limitations.
- Role of Central Institutes of Education and Technology, National Open School, Distance Educational Institutes in the improvement of teaching-learning process.

UNIT IV: Introduction of Computer, Internet, Networking, E-learning and Cyber Security

- MS Office, Data management System using Excel and Power point presentation.
- Advantages of Networking and Internet Connectivity
- E-learning — Definition, Advantage and Characteristics.

REFERENCES:

- Goldin, C., & Katz, L. (2008). The race between education and technology. Cambridge, Mass.: Belknap Press of Harvard University Press. ISBN- 13: 978-0671035300. ISBN-10: 0674035305
- Castelli, D., & Fiorentino, L. (2008). Physical education technology playbook. Champaign, IL: Human Kinetics. ISBN-10: 0736060553. ISBN- 13 978-0736060554
- Leight, J. Technology for physical education teacher education. ISBN-10: 1494195765 ISBN- 13: 978-1 494895761
- Felker, K. (2011). Integrating technology into physical education and health. [Place of publication not identified]: American Press. ISBN- I O- 089641 4965. ISBN- 13: 978-08964 14969
- Mohsen, B. (2012) Using technology in physical education. ISBN-10: 18931 66899 ISBN- I 3: 978-18931 66899
- Selwyn, N. (2011). Education and technology. London: Continuum International Pub.

PRACTICAL COURSE

Course Code	Course Title	Credits
PHED 524	Sports Practical with specialization in any one: Track &Field / Gymnastics / Swimming / Combative Sport / Indigenous Sport/ Team Game / Racket Game.	4

(A)Track and Field (B) Gymnastics (C) Swimming (D) Combative Sport: Boxing/Judo/Taekwondo/ Wrestling (E) Indigenous Sport: Kabaddi/ Kho-Kho (F) Team Game: Basketball/ Cricket/ Football/ Handball / Hockey/ Volleyball (G): Racket Game: Badminton/ Table Tennis/ Tennis

ESSENCE OF THE COURSE

It is designed to provide an opportunity to the students to learn the basic techniques of the game/sport and are not only able to display them but also systematically teach them.

COURSE CONTENTS:

(General guidelines for development of required course contents in particular game/sport are given below)

Note: The course contents to be followed for the purpose of developing practical knowledge regarding marking, rules & regulation, officiating, technical training, tactical training, psychological preparation & preparation of training schedules)

UNIT - 1: Introduction

- Layout and marking of play field/ground/courts and measurement of equipments used in Game/Sport.

UNIT — II: Techniques/Skills development:

- Classification of techniques/skills.
- Technique/skill training: Preparatory, Basic, Supplementary exercises.
- Identification & Correction of faults.
- Training for mastery in technique/skill.
- Recreational and lead-up activities.
- Warm-up and cool down for game/sports.

UNITS —III: Officiating:

- Mechanics of officiating.
- Qualities of good official.
- Duties of official (pre, during and post game)
- Rules & their interpretations.

UNIT - IV: Training (Means & Method)

- Training methods and means for the development of motor abilities (Strength, Speed, Endurance and Flexibility)

Core Course

Course Code	Course Title	Credits
PHED 525	Research Project / Dissertation	4

Guidelines for Research Project:

In this semester, the allotted project work (selected in the 3rd semester) will be completed and submitted for evaluation before the end of 4th Semester. Supervisor will ensure that assigned 4 hours per week are taken to guide the students in his project work. At the end of 3rd semester students will present their work progress and report to their supervisor. Bind copies of the report will be submitted in the department before the end of 4th semester. In this Semester the project course will be evaluated on the basis of the dissertation/report and its presentation.